

# Stormwater Permit



## Land Disturbance, Geothermal Well, & Direct Connection

The Commonwealth of Virginia mandated that all local governments adopt new stormwater regulations to reduce the amount of “non-point source” pollution and water volume flowing to the Chesapeake Bay. In response, on March 24, 2014, City Council eliminated stormwater management development criteria from Chapter 14 “Environment” and Chapter 48 “Zoning” and adopted an all-inclusive stormwater management ordinance, [Chapter 35 “Stormwater.”](#) that contains existing regulations and the state’s new development criteria. As of July 1, 2014, stormwater development criteria for projects will be reviewed as part of a Stormwater Permit. The Stormwater Permit must be issued before commencement of any regulated work.

The following is a list of the types of projects now regulated under the Stormwater Permit and the minimum required support documentation.

**Grading Plan/Site Plan-** For projects exceeding 2,500 SF of land disturbance.

- General permit registration statement and evidence of general permit coverage
- Stormwater management plan
- Erosion and sediment control plan
- Landscape conservation plan

### Work within a Resource Protection Area (RPA)

- Stormwater management plan
- Erosion and sediment control plan
- Landscape conservation plan
- Water Quality Impact Statement

### Geothermal Well

- Erosion and Sediment Control Plan

### Direct Connection to the Stormwater System

- Stormwater Management Plan

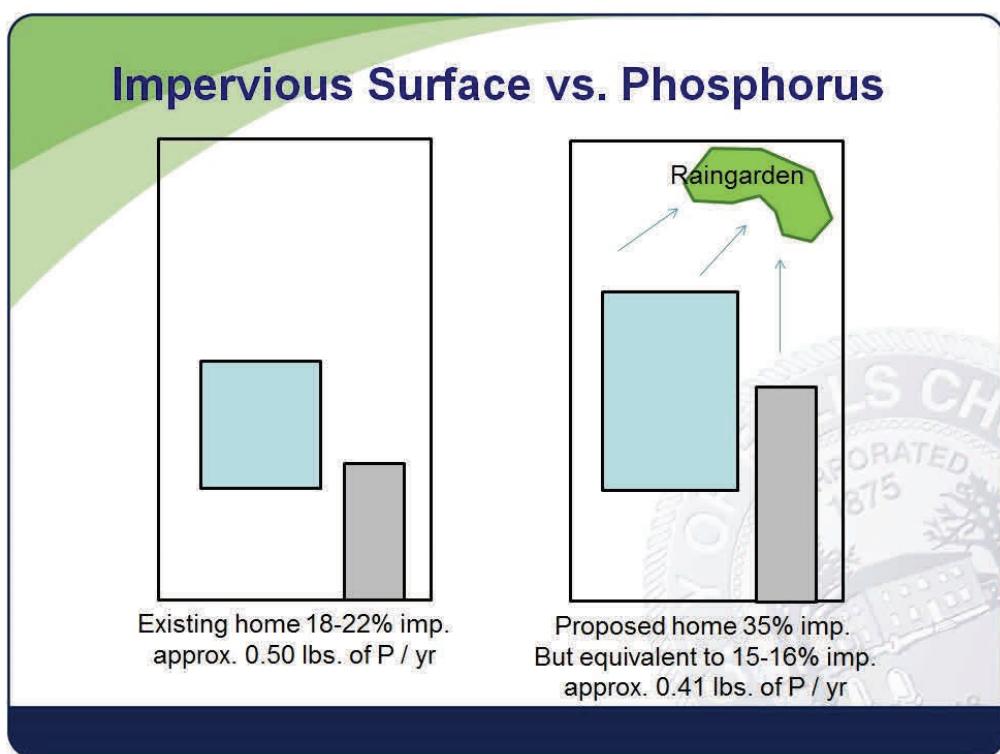
### Table of Contents

- Page 2 - Ordinance Changes
- Page 3 - Stormwater Permit Flow Chart
- Page 4 - Land Disturbance less than 2500SF
- Page 5-6 - Grading Plan Requirements
- Page 7 - Resource Protection Areas
- Page 8 - Direct Connection to the Stormwater System
- Page 8 - Geothermal Well
- Page 8 - Sump Pump
- Page 8 - Stormwater Management Review Team (SMRT)
- Page 9 - Stormwater Permit Approval Process
- Page 10 - Virginia Stormwater Management Permit (VSMP)
- Page 11 - Bonds
- Page 12 - Fees
- Page 12 - Additional Information
- Page 13 - Glossary



# Stormwater Ordinance Changes for Development

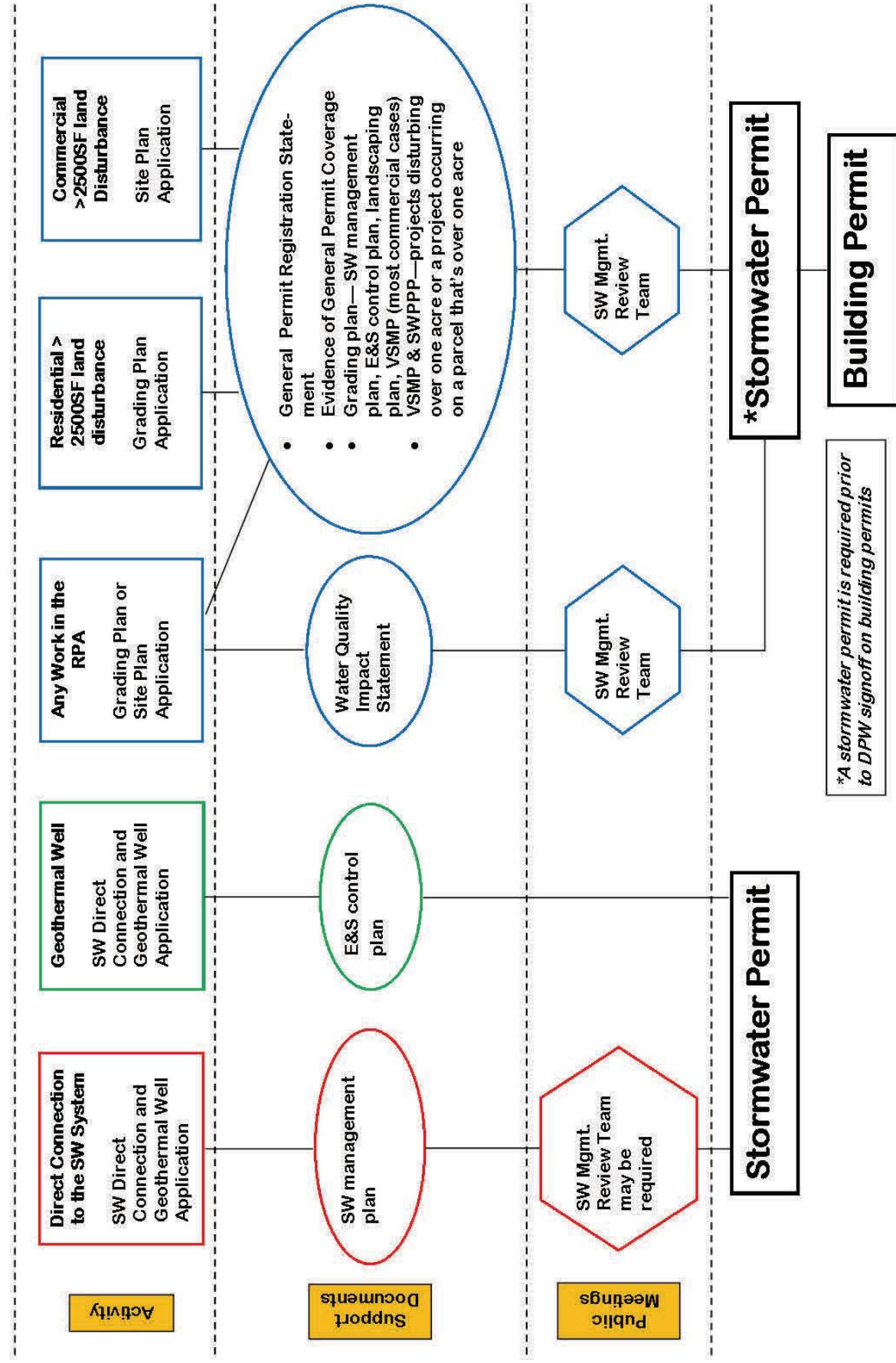
- ◊ Introduction of City-issued Stormwater Permit.
- ◊ The installation of geothermal wells and direct connections to the City's stormwater infrastructure are now reviewed and permitted by the City under the Stormwater Permit.
- ◊ 0.41lbs of Phosphorous per acre per year requirement replaces 35% cap on impervious coverage for water quality calculation purposes on parcels zoned R1A and R1B.
- ◊ New development must meet the 0.41lbs of Phosphorus per acre per year standard.
- ◊ Redevelopment of all parcels not zoned R1A or R1B must reduce Phosphorus loading by 20% if land disturbance is one acre or greater or by 10% if land disturbance is less than one acre (not to exceed 0.41lbs standard for new development).
- ◊ Phosphorus load calculations must be done by the Virginia Runoff Reduction Method.
- ◊ Water quantity calculations must address (1) channel protection, (2) flood protection, and (3) sheet flow.
- ◊ Projects disturbing over 1 acre of land must have a City-approved Stormwater Pollution Prevention Plan (SWPPP). The City is now required to review the SWPPP and issue a Virginia Stormwater Management Permit, which had been done previously by Virginia Department of Environmental Quality.
- ◊ The Stormwater Management Review Team (SMRT) replaces the Chesapeake Bay Interdisciplinary Review Team (CBIRT) and becomes advisory to the Director of Public Works.



# Stormwater Permit

The Department of Public Works performs the reviews for Stormwater Permits.

The following flow chart explains the support documents and public meetings required for each activity.



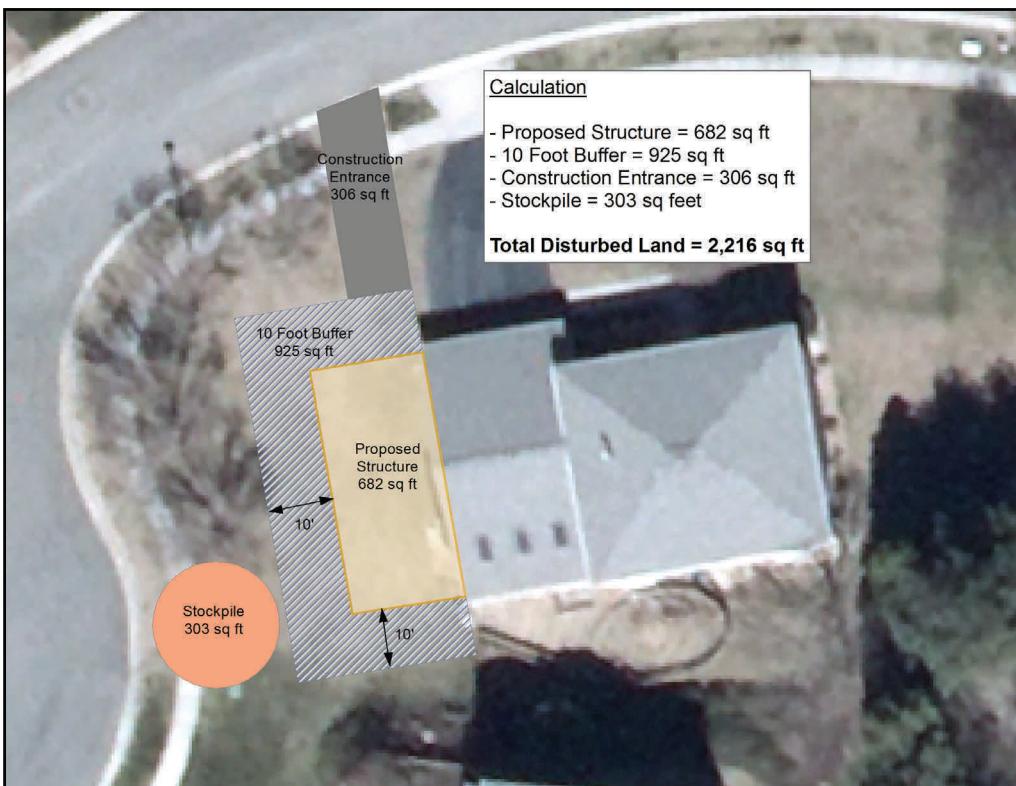


## How to Determine Land Disturbance for a Stormwater Permit

If you are submitting a building permit application which includes exterior work, and plan to disturb less than 2,500 square feet of land, you must complete the ["Addendum to Permit Application - Land Disturbance & Exterior Work"](#) form. If your land disturbance calculated on that form approaches 2,500 s.f. or if it is unclear how you estimated land disturbance, then a drawing may be required by the Department of Public Works (DPW).

Follow these guidelines to prepare a land disturbance drawing

- Start with a plat or similar scaled drawing of the existing property
- The original drawing should be clear and un-faxed
- Draw a box around the footprint of the new construction on the plat
- Draw a 10' buffer around the work area and calculate the area
- Draw a 10' wide strip from street/driveway to edge of project footprint and calculate the area
- Draw any stockpile areas and any access paths that will cause land disturbance
- The seal of the original preparer must be crossed-out and initialed by the person editing
- Clearly label all areas in square feet and show a calculation adding the total disturbed area



To calculate disturbed area, add the following:

Area of project footprint

+

Area of 10 foot buffer around project footprint

+

Area of stockpile footprint

+

Area of 10 foot wide strip from street/driveway to edge of project

Disturbed Area

# Grading Plan Requirements

An approved Grading Plan is required for all residential projects exceeding 2,500 square feet of land disturbance. The plans shall be prepared by a registered Professional Engineer, Land Surveyor, or Landscape Architect and shall be in conformance with City Code, specifically Chapter 35, Stormwater.

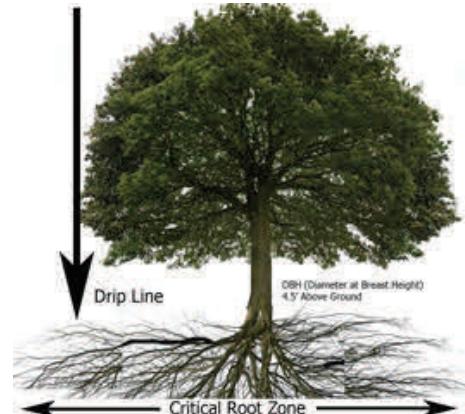
The following information must be provided on a grading plan for it to be considered for review:

- ◊ Minimum plan size is 24x36 inches
- ◊ Minimum scale of 1 inch = 20 feet
- ◊ Signed seal of a land surveyor, architect, landscape architect, or professional civil engineer licensed in the Commonwealth of Virginia
- ◊ Existing site information including the following:
  - Address and lot number
  - RPC number
  - Lot & parcel dimensions, area, lot line bearings and distances
  - Deed book and page number for private streets and easements
  - Owner Information
  - Zoning district and any variance required for the development
  - Existing contours in one or two foot intervals
  - Existing utilities (water, sewer, stormwater, electricity, gas)
  - Existing drainage divides and flow arrows to show existing drainage patterns
  - Vicinity map
  - Soils map
  - Floodplain and Resource Protection Areas as appropriate
- ◊ Proposed site conditions including the following:
  - Limits of clearing and grading
  - Proposed improvements
  - Proposed contours in the same interval as existing contours
  - Proposed utilities
  - Locations of all downspouts and foundation drain outfalls
- ◊ Erosion and Sediment Control Plan including:
  - Erosion and sediment control practice location
  - Arrows showing the direction of surface water flow
  - Limits of clearing and grading
  - Responsible Land Disturber and certification number
- ◊ Erosion and Sediment Control Narrative including:
  - Project description
  - Existing conditions
  - Adjacent area and off-site area descriptions and if they are affected by the project
  - Soils description
  - Critical area description or an explanation that no critical areas exist on-site
  - E&S Control measure description
  - Permanent stabilization description
  - Stormwater runoff calculations for pre and post-development conditions



## Grading Plan Requirements (cont.)

- ◊ Stormwater drainage divides and calculations for pre-developed and post-developed conditions including water quantity and water quality.
- ◊ Stormwater management systems (Best Management Practices) with accompanying calculations if applicable
- ◊ The location, dimensions, and height of existing and proposed buildings or structures
  - For decks, height is measured from the finished grade to deck floor
  - For additions and accessory structures, height is measured from average finished grade to the midpoint of the highest roof
- ◊ Existing and proposed vegetation inventory and plans in accordance with City Code Chapter 44 and the latest Urban Forestry Grading Plan Guide titled "[Tree Preservation and Replacement Guide for Development and/or Redevelopment on Single Family Residential Lots](#)"
- ◊ Proposed tree preservation measures
- ◊ Landscape re-vegetation plan
- ◊ Canopy coverage calculations
- ◊ Name of affected watershed and disturbed area within it



## Zoning Requirements for Grading Plans

- ◊ For all lots zoned R1A/R1B the maximum impervious lot coverage is 35%, or more per [City Code §48-238](#).
- ◊ Uncovered driveways, walks, and patios using pervious materials shall be reduced up to 25% of the entire pervious surface area (as determined by the Zoning Administrator)
- ◊ R1A/R1B Residential Building Height - 35 feet or 2 1/2 stories
- ◊ R1A Residential Setbacks - 30 feet front yard, 15 feet side yard, 40 feet rear yard
- ◊ R1B Residential Setbacks - 25 feet front yard, 10 feet side yard, 30 feet rear yard
- ◊ Max driveway width 14 feet

### Is your project in a floodplain?

If you live along a stream your property may be in a floodplain. Restrictions for construction and added requirements may apply. Not all floodplains are near visible streams as many streams in the City are in underground storm sewer pipes.

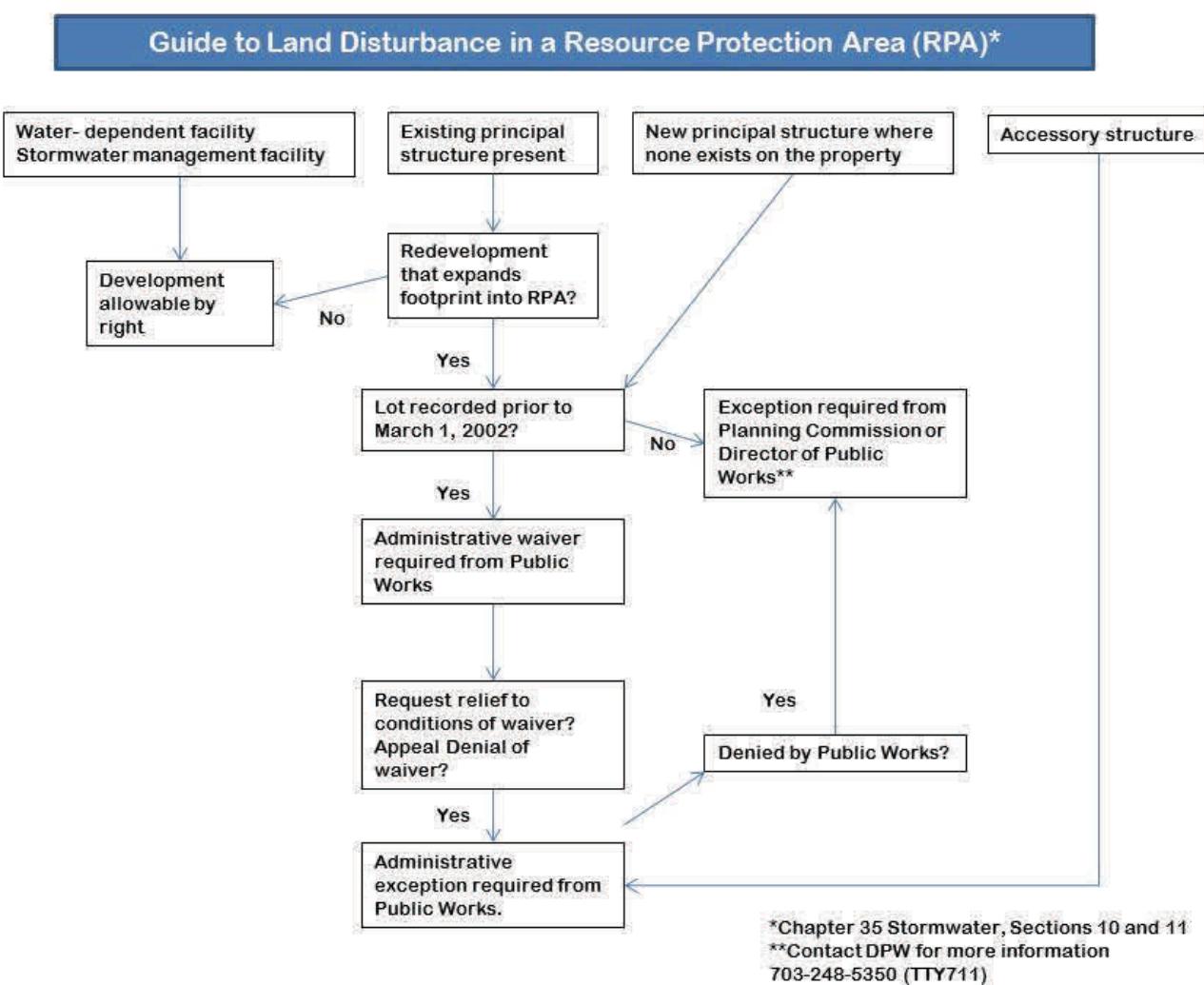


For more information go to [www.fallschurchva.gov/Stormwater](http://www.fallschurchva.gov/Stormwater) and look under the "Floodplain" and "Resource Protection Areas" links.

# Resource Protection Area

A Resource Protection Area (RPA) is environmentally sensitive and legally protected land that lies alongside or near a stream or other water body, which eventually drains to the Potomac River and Chesapeake Bay. RPAs protect and benefit water quality by helping reduce the impacts of nonpoint source pollution. The flow chart below explains the process and options for land disturbance in a RPA.

- ◊ The RPA is a 100' buffer away from either side of the top of a stream bank or wetland.
- ◊ RPAs protect water quality, filter pollutants, reduce runoff, and prevent erosion.
- ◊ RPAs are regulated under the Chesapeake Bay Preservation Ordinance [§35-10 and §35-11](#), which requires a grading plan or site plan for all land disturbance in the RPA.
- ◊ Go to the city's mapping services webpage to see if there is an RPA on your property.  
[\(http://property.fallchurchva.gov/ParcelViewer/\)](http://property.fallchurchva.gov/ParcelViewer/)
- ◊ If a survey of the stream bank has not been performed as part of your plat, you may use the boundary on the city maps in some cases; denote your plan with the following: "Approximate RPA boundary from the City of Falls Church Chesapeake Bay Preservation Area Map." The City Engineer may require the RPA to be surveyed.
- ◊ To learn more about RPAs, contact DPW at 703-248-5350 (TTY 711).



## Geothermal Well (minimum requirements)

- ◊ Erosion and Sediment Control Plan including:
  - 8 1/2" by 11" sheet ; not required to be sealed by a registered professional
  - Erosion and sediment control practice location
  - Arrows showing the direction of surface water flow
  - Limits of clearing and grading
- ◊ Erosion and Sediment Control Narrative including:
  - Project description
  - Existing conditions
  - Erosion & Sediment Control measure description
  - Permanent stabilization description



## Direct Connection to the Stormwater System (minimum requirements)

- ◊ Stormwater drainage divides and calculations for pre-developed and post-developed conditions including both water quantity and water quality
- ◊ Increases in peak flow must be sealed by a registered Professional Engineer
- ◊ Inventory of existing storm infrastructure (size, material, location, condition)
- ◊ Layout of proposed piping to be connected to City's storm conveyance system
- ◊ Details on how the connection will be made (Note: connections to existing structures must be core drilled and sealed with non-shrink grout)
- ◊ No blind connections will be allowed
- ◊ A description of potential impacts to existing vegetation (on-site and off-site)
- ◊ A description of temporary and permanent stabilization

### Can my sump pump be connected to a storm drain?

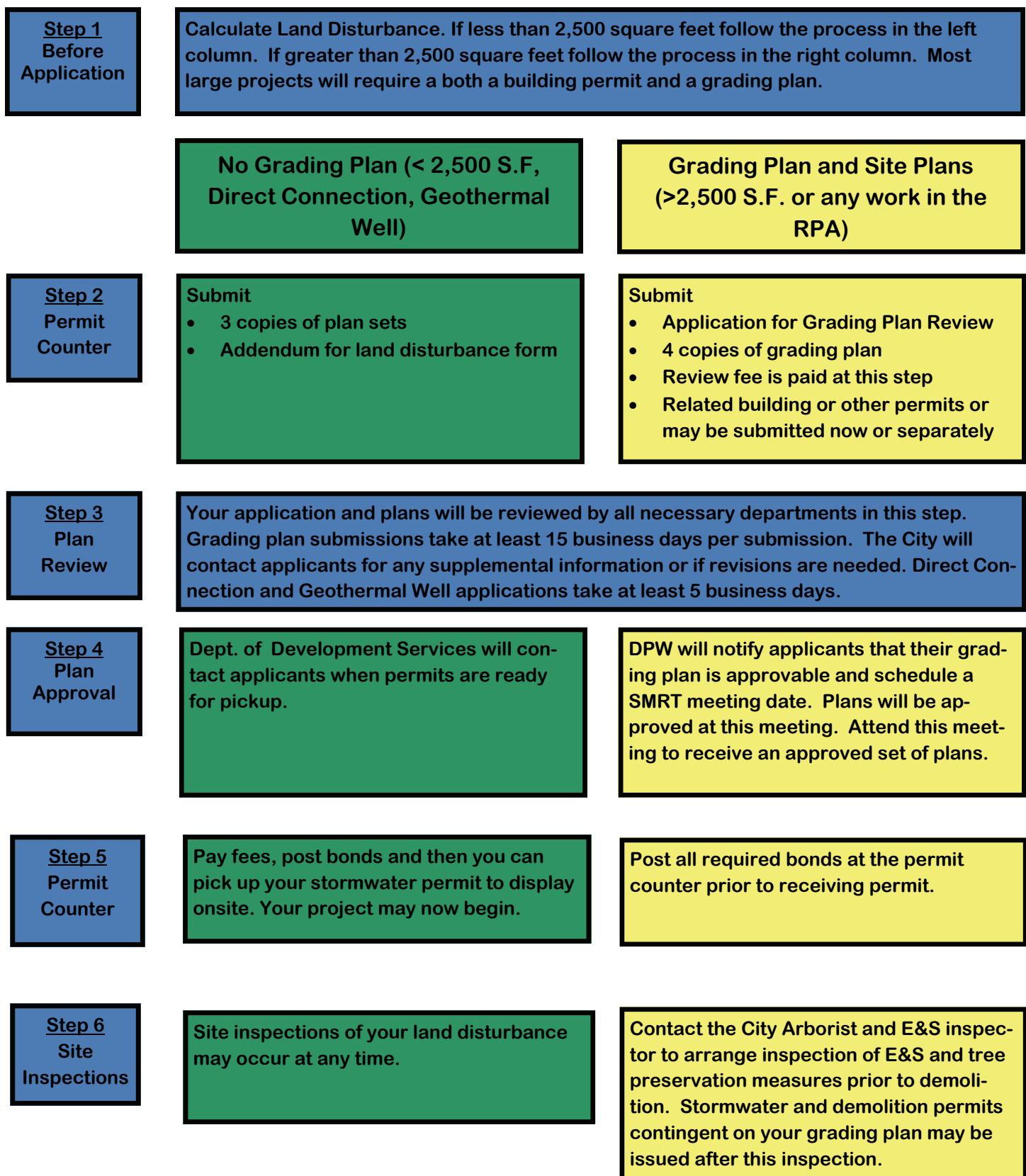
Yes! File a Direct Connection permit showing the location and a description of how the installation work will be performed.

## Stormwater Management Review Team (SMRT)

The Stormwater Management Review Team (SMRT) will meet to review Stormwater Management Permits. SMRT meetings will be advertised and open to the public for input on stormwater management issues related to development. Property owners within 150 feet of land disturbing activities that are the subject to review will be mailed notification of applicable SMRT meetings at least 10 days prior to the meeting date. The Director of Public Works makes the final decision based on the recommendation of SMRT. The team is comprised of City staff, to include but not limited to the Director of Public Works, a senior or principal planner from the Development Services Department, the City Engineer, and City Arborist.

# Stormwater Permit Approval Processes

The approval process for your grading plan is parallel to the stormwater permit application process. The process below is the most common and is not applicable for all projects.



# Virginia Stormwater Management Program (VSMP) Permit

Construction activities resulting in land disturbance equal to or greater than one acre must have a City approved Stormwater Pollution Prevention Plan (SWPPP). The City is now required to review the SWPPP and issue a Virginia Stormwater Management Permit, which had been done previously by the Virginia Department of Environment Quality.

- ◊ Construction activities resulting in land disturbance equal to or greater than once acre.

## Permit Process

- ◊ Complete the General Permit for Discharges of Stormwater from Construction Activities application and submit to the City of Falls Church Department of Development Services counter, 300 Park Avenue, Suite 300 West
- ◊ 15-day review turnaround; reviewed by the Department of Public Works, Stormwater Division
- ◊ Fees: Applicable Development Fee to the City of Falls Church, \$756 to VA Department of Environmental Quality
- ◊ Falls Church Hydrologic Unit Codes (HUC): Four Mile Run - PL25, Tripp's Run - PL26

## Stormwater Pollution Prevention Plan (SWPPP)

- ◊ A SWPPP is required to be developed prior to submitting a VSMP permit application. Submit the SWPPP with the permit application.
- ◊ The SWPPP outlines the methods that the operator will implement in order to comply with the VSMP permit, specifically in regards to water quality and water quantity. The following minimum measures must be installed and maintained as stated in [9VAC25-870-56](#):
  - Minimize the discharge of pollutants from equipment and wheel washing, wheel wash water, and other wash waters
  - Minimize the exposure of building materials, building products, construction wastes, trash, landscape materials, fertilizers, pesticides, herbicides, detergents, sanitary waste, and other materials present on the site to precipitation and to stormwater
  - Minimize the discharge of pollutants from spills and leaks and implement chemical spill and leak prevention and response procedures
  - The SWPPP shall include a plan for prohibiting the following discharges: wastewater from washout of concrete; wastewater from washout and cleanout of stucco, paint, form release oils, curing compounds, and other construction materials; fuels, oils, or other pollutants used in vehicle and equipment operation and maintenance; soaps or solvents used in vehicle and equipment washing
  - Discharges from dewatering activities are prohibited unless managed by appropriate controls
- ◊ The approved SWPPP must be kept on site at all times.

# Bonds

---

## Grading Plans – Residential Development

Several types of bonds are required by the City prior to issuance of permits. Bond Agreement forms must be signed by applicants when bonds are posted. Some bonds (or portions of bond amounts) must be paid in cash; for the rest, Surety bonds or Letters of Credit are acceptable.

### ◊ Erosion & Sediment Control (ES&C) Bond

Applicant must include area of land disturbance on grading plan application. On that form the bond base amount is set to \$750.00 plus \$0.40 per square foot of land disturbance. The bond must be posted prior to subsequent permit issuance and will be reviewed for accuracy by DPW. (***cash only***)

### ◊ New Landscape (NL) Bond

Amount will be determined by the City Arborist, based on review of the grading plan and estimate form completed by the Applicant. (***First \$2000 cash only***)

### ◊ Existing Tree (ET) Bond

Amount will be determined by the City Arborist, based on review of the grading plan and a set amount per existing tree. (***First \$2000 cash only***)

### ◊ Right of Way (ROW) Bond

In most instances, the ROW bond will be \$2500.

### ◊ Demolition (DEMO) Bond, if applicable

DDS will determine the bond amount, which must be paid prior to issuance of any Demo Permit. (***cash only***)

## Site Plans - Bond Packages for Commercial Development

For commercial development involving the Site Plan approval process, Bond Package submittal is handled by the Department of Public Works. For more information please see the [Commercial Bonds Guidelines and Requirements handout](#).

## Bond Releases

Every type of bond release or refund requires submission of 1) [Request for Bond Release Form](#); and 2) Current W-9 form. Submit requests to the Permits Counter. Cash refunds will be issued only to the specific party which posted the cash bond initially. Bond release eligibility is as noted:

### ◊ E&SC Bond (inspection by the DPW required)

6 months after the Final Certificate of Occupancy is issued.

### ◊ NL Bond (inspection by the City Arborist required)

One year after the City Arborist approved inspection date.

### ◊ ET Bond (inspection by the City Arborist required)

1/2 of the bond amount is eligible for release when Final Certificate of Occupancy issued. The remaining 1/2 is eligible for release 2 years after the initial release.

### ◊ ROW Bond (inspection by DPW required)

Concrete: inspection 30 days after final pour. Asphalt: 6 months after final inspection.

### ◊ DEMO Bond (inspection by Building Official required)

As soon as Demo clean-up inspection is complete.

## Fees & Other Permits

---

### VSMP Permit

Applicable Development Fee to the City of Falls Church; \$756 to the VA Department of Environmental Quality

### Grading Plans (payable at submission)

Minor — less than 1/2 acre      \$1,200

Major — greater than 1/2 acre    \$2,000

(includes E&S, SMRT, bond management, tree & landscape review requirements, VSMP)

Geothermal Well - \$100

Direct Connection to Stormwater System - \$200

### Building Permits

Fee calculated based on the size of your project. For new construction a building permit is issued separately from any required grading plan.

### Demolition Permit

Fee and required bond calculated based on the size of your project. A demolition permit is issued separately from any required grading plan.

### Right-of-Way (ROW) Permit \$200

- Applicable to driveway apron, sidewalk, retaining walls, utility work
- Includes review, inspection, and bond management
- This permit is required separately from either your grading plan or building permit

PODS/Dumpsters                         \$100

ROW - Road Closure Only                \$100

## For More Information

---

### Development Services:

300 Park Avenue

Suite 300 West

### Zoning/Permit Counter

(703)248-5080 (TTY 711)

### Public Works:

300 Park Avenue

Suite 100 West

### Engineering/Stormwater

(703) 248-5350 (TTY 711)

Hours: 8AM - 4PM

Monday-Friday

Hours: 8:30AM - 5PM

Monday-Friday

[www.fallschurchva.gov/Permits](http://www.fallschurchva.gov/Permits)

[www.fallschurchva.gov/Stormwater](http://www.fallschurchva.gov/Stormwater)

[www.fallschurchva.gov/Development](http://www.fallschurchva.gov/Development)

[www.deq.virginia.gov/Programs/Water/StormwaterManagement.aspx](http://www.deq.virginia.gov/Programs/Water/StormwaterManagement.aspx)

# Glossary

---

## ***Best Management Practice (BMP)***

***Buffer area*** - an area of natural or established vegetation managed to protect other components of a resource protection area and state waters from significant degradation due to land disturbances.

***Dripline*** - a vertical projection to the ground surface from the furthest lateral extent of a tree or shrub's canopy

***Impervious land cover*** - a surface composed of any material that significantly impedes or prevents natural infiltration of water into the soil. Impervious surfaces include, but are not limited to: nonvegetated roofs; buildings; streets; parking areas; sidewalks; driveways; swimming pools; recreational surfaces such as tennis courts or basketball courts; and, any concrete, asphalt, or compacted gravel surface.

***Land disturbing activity*** - a manmade change to the land surface that potentially changes its runoff characteristics including any clearing, grading, or excavation except that the term shall not include those exemptions specified in [City Code section 35-4](#).

***Nonpoint source pollution*** - pollution consisting of constituents such as sediment, nutrients, and organic and toxic substances from diffuse sources, such as runoff from agriculture and urban land development and use.

***Peak flow rate*** - the maximum instantaneous flow from a given storm condition at a particular location

***Pervious land cover*** - a surface composed of any material that allows for natural infiltration of water into the soil in varying degrees

***Pre-development conditions*** - conditions at the time an applicant becomes subject to the provision of City Code Chapter 35. Where phased development or plan approval occurs (preliminary grading, roads and utilities, etc.), the existing conditions at the time the applicant first becomes subject to the provisions of City Code Chapter 35 shall establish pre-development conditions.

***Responsible Land Disturber*** - an individual from the project or development team, who will be in charge of and responsible for carrying out a land-disturbing activity covered by an approved plan or agreement in lieu of a plan who (a) holds a Responsible Land Disturber certificate of competence (b) holds a current certificate of competence from the Board in the areas of Combined Administration, Inspection, or Plan Review (c) holds a current Contractor certificate of competence for erosion and sediment control or (d) is licensed in Virginia as a professional engineer, architect, certified landscape architect or land surveyor pursuant to Article 1 ([§54.1-400 et seq.](#)) of Chapter 4 of Title 54.1 of the Code of Virginia.

***Resource Protection Area (RPA)*** - that component of the Chesapeake Bay preservation area as defined in [City Code section 35-10\(b\)](#). Resource protection areas consist of sensitive lands that have an intrinsic water quality value due to the ecological and biological processes they perform or are sensitive to impacts which may result in significant degradation to the quality of state waters.

***Stormwater Management Review Team (SMRT)*** - a team composed of City staff, to include but not be limited to the director, a senior or principal planner from the development services department, the City engineer, and the City arborist.

***Stormwater Pollution Prevention Plan (SWPPP)*** - a document that is prepared in accordance with good engineering practices that identifies potential sources of pollution that may be reasonably be expected to affect the quality of stormwater discharges from the construction site and otherwise meets the requirements of City Code sections [35-8](#) and [35-9](#). In addition, the document shall identify and require the implementation of control measures, and shall include, but not be limited to the inclusion of, or the incorporation by reference of, an approved erosion and sediment control plan, and approved stormwater management plan, and a pollution prevention plan.

***Tree canopy coverage*** - the area surrounding a tree or shrub located within the dripline.